

Claims

1. A stator for an electrical machine, in particular a rotary current generator, in
5 which the stator (36) is made by the flat-packet technique and comprises at least
one stator iron (10, 30) and the stator iron (10) has a substantially annular-
cylindrical shape, and in which the stator iron (10) has an axial direction (a) which
is oriented in the direction of a cylinder axis, and the stator iron (10) has an end
face which is oriented in the direction of the cylinder axis and defines a slot area
10 (A_{Nut}), characterized in that a ratio A formed of the slot area (A_{Nut}) and the end face
area amounts to between 0.4 and 0.8.

2. The stator as defined by claim 1, characterized in that the ratio A is between
0.4 and 0.7.

15 3. The stator as defined by one of the foregoing claims, characterized in that
the stator iron (10) has forty- eight inner teeth (19), and the ratio A amounts to
between 0.45 and 0.70.

20 4. The stator as defined by claim 3, characterized in that the ratio A is between
0.45 and 0.60.

25 5. The stator as defined by one of claims 1 or 2, characterized in that the
stator iron (10) has thirty-six inner teeth (19), and the ratio A amounts to between
0.4 and 0.6.

6. The stator as defined by claim 5, characterized in that the ratio A is between
0.40 and 0.55.

30 7. The stator as defined by one of the foregoing claims, characterized in that
the slot fill factor (F) amounts to between 50% and 80%.

8. The stator as defined by claim 7, characterized in that the slot fill factor F
amounts to between 60% and 70%.

9. The stator as defined by one of the foregoing claims, characterized in that a slot (25) has a contour which is defined toward the yoke by diametrically opposed tooth sides (59) and a yoke contour (62), and the tooth sides (59) of a slot (25) have a maximum spacing (b_{z3}) from one another in the circumferential direction; and that a slot pitch (τ_3) is the spacing between two directly adjacent tooth centers of the stator iron (10) at the diameter of the maximum spacing (b_{z3}), where (c3) amounts to between 0.45 and 0.65.

10 10. The stator as defined by one of the foregoing claims, characterized in that a slot (25) has a contour which is defined toward the tooth head by diametrically opposed tooth sides (59) and tooth head contours (62), and the tooth sides (59) of a slot (25), at the transition to the tooth head contours (65), have a spacing (b_{z2}) from one another in the circumferential direction; and that a slot pitch (τ_2) is the spacing between two directly adjacent tooth centers at the diameter of the spacing (b_{z2}) of the stator iron (10), and where (c2) amounts to between 0.45 and 0.65.

11. The stator as defined by one of the foregoing claims, characterized in that (c2) amounts to between 0.50 and 0.60 and (c3) amounts to between 0.47 and 20 0.60.

12. The stator as defined by one of the foregoing claims, characterized in that the tooth sides (59) change over by means of rounded transitions to the tooth head contours (65) and the yoke contour (62), and the radii amount to between 25 0.3 mm and 2.0 mm.